

INTERNATIONAL SEARCH REPORT

Internationale Patent Application No.

PCT/IB 03/04191

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 F16K11/072

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 263 937 A (RUDENKO NIKOLAI V) 28 April 1981 (1981-04-28) column 4, line 51 -column 5, line 18 column 5, line 47 - line 53; figures 3-7	1, 13
A	EP 0 832 679 A (BOC GROUP INC) 1 April 1998 (1998-04-01) abstract; figure 1	1, 13
A	US 4 625 763 A (SCHICK DAVID L ET AL) 2 December 1986 (1986-12-02) cited in the application column 6, line 32 -column 7, line 5; figures 1,2	1, 13



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *G* document member of the same patent family

Date of the actual completion of the international search

8 January 2004

Date of mailing of the international search report

15/01/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Christensen, J

INTERNATIONAL SEARCH REPORT

Intern: Application No

PCT/IB 03/04191

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4263937	A	28-04-1981	NONE	
EP 0832679	A	01-04-1998	US 5807423 A	15-09-1998
			US 5814131 A	29-09-1998
			US 5814130 A	29-09-1998
			AU 718925 B2	04-05-2000
			AU 3924197 A	02-04-1998
			CA 2214916 A1	27-03-1998
			EP 0832679 A2	01-04-1998
			ID 19678 A	30-07-1998
			JP 10151315 A	09-06-1998
			ZA 9708097 A	03-03-1998
US 4625763	A	02-12-1986	AT 56799 T	15-10-1990
			AU 582252 B2	16-03-1989
			AU 5975586 A	22-01-1987
			CA 1259547 A1	19-09-1989
			DE 3674358 D1	25-10-1990
			EP 0227204 A1	01-07-1987
			IN 167582 A1	17-11-1990
			JP 62072968 A	03-04-1987
			KR 9207706 B1	15-09-1992
			ZA 8605123 A	25-03-1987